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Resource Paper

Health Indicator System for Rhode Islanders on Medicaid: An Effective Model to Identify Unmet Health Care Needs and Evaluate Program Initiatives

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Executive Summary

The Rhode Island Department of Human Services developed and implemented a Health Indicator System to assess, design, monitor, and evaluate health services and program interventions for Rhode Islanders on Medicaid. Health Indicators are designed from existing public health data sets (e.g., adequacy of prenatal care from Vital Statistics Birth File and infant mortality from Vital Statistics Death File), state surveys of Medicaid enrollees (e.g., Unmet Health Care Needs of both children and adults with disabilities), and the Medicaid program data (e.g., Leading causes of hospitalizations from the MMIS). Health Indicators are analyzed by insurance status in order to compare outcomes between privately and publicly insured Rhode Islanders. Indicators are developed from reliable data sets that are collected regularly so changes in health status can be measured.

The Health Indicator System in Rhode Island is unique because the state Medicaid program has integrated this model into its program operations and uses these measures to design and evaluate its ongoing program initiatives. Health Indicator Results and Reports are presented monthly to Medicaid program directors and staff at the Evaluation Studies Workgroup. This interdisciplinary workgroup provides a forum for researchers, planners, and program managers to discuss which health indicators reflect unmet need for Medicaid enrollees and to select health indicators to track over time.

The Rhode Island Medicaid program has tracked several health indicators for the past 10 years and these results are included in this report:

- Adequacy of prenatal care
- Maternal smoking
- Short interbirth interval

- Infant mortality
- Teen repeat birth rate
- Low income uninsured children
- Mental health hospitalizations

Introduction/Background – What Is the Health Indicator System?

In 1999, the state of Rhode Island established an evaluation infrastructure within its Medicaid program called the Health Indicator System[1]. The purpose of the Health Indicator System is to assess, design, monitor, and evaluate health services and program interventions for Rhode Islanders on Medicaid using existing public health data sets, statewide surveys, and Medicaid program data. This system is designed to determine unmet health needs, measure access to care, and evaluate health outcomes of Medicaid enrollees. The Health Indicator System helps state policymakers decide if investments in health coverage through Medicaid have improved the health status of Rhode Islanders and also gives Medicaid program directors baseline health status measures to help design and evaluate new program initiatives. In Rhode Island both researchers and program staff oversee the Health Indicator System through the Evaluation Studies Workgroup. This interdisciplinary, interagency group has met monthly since 1996 and consists of health services researchers from Brown University and University of Rhode Island, public health researchers, staff from the Health Department, and Medicaid program staff. Monthly meetings include:

- Discussions of areas of unmet need for different Medicaid populations;
- Review and comment on proposed study methods;
- Presentations of study results and indicator reports;
- Discussions of implications of results for Medicaid programs; and

- Recommendations for program interventions.

This report describes how the Health Indicator System was setup and includes several examples of how the Medicaid program staff has used these indicators to measure program needs and services.

Methods – Creation of Health Indicators is a Dynamic and Interactive Process

Design and Selection of Health Indicators

Rhode Island's Medicaid program is divided into two age-based programs: 1) The Center for Adult Health, serving adults with disabilities over age 21; and 2) The Center for Child and Family Health, serving low-income healthy families and children as well as children under 21 years old with disabilities. The Health Indicator System is designed for the different needs of age specific population subgroups and program objectives. For example, selection of health indicators for children on fee-for-service Medicaid warranted a four-step process:

Step 1: Review policy studies, performance measure projects, and research literature for an age-specific program population. List recommended health outcome measures for each study. Group these measures in a matrix by study (see Figure 1 for Health Indicators for Children with Disabilities).

Step 2: Identify available quality data sets that contain health measures on an ongoing annual basis. Produce matrix of health measures by inclusion in existing datasets (see Figure 2).

Step 3:   Present health indicators and data set availability matrices to Medicaid

program staff, evaluation studies workgroup members, and other stakeholder

groups to determine their program priorities for baseline and follow-up outcome

measures.

Step 4:   Identify gaps in data sets (i.e., no data available to measure program priority

measure). Recommend need for new data collection or survey on particular

Medicaid population.

This same process for selection of indicators can be used for any age-based population

group on Medicaid. For example, matrices were developed for adolescents, healthy adults,

and adults with disabilities (see Appendices 1-3).

FIGURE 1: RECOMMENDED HEALTH INDICATORS FOR CHILDREN WITH DISABILITIES	Accreditation groups/ Consensus panels		Policy/government groups		Published in journals			
	FACCT/ NCQA	NACHRI	TitleV - MCHB	Johns Hopkins	Kuhlthau	Newa-check	Powe	Pantel
STRUCTURE								
Easy physical access to facility				X		X		
Adequate number of pediatric specialists **			X	X	X	X		
Pediatricians have clinical knowledge of disability				X		X		
Access to care weekends and nights *				X		X		
Support services available (i.e., transportation, homecare, respite) **				X		X		
Written linkages in place - state health, education, social service agencies		X		X	X			
Quality of care protocols in place		X			X			
Grievance and appeals process in place (esp for medical equipment)				X	X	X		
Parents on advisory group			X		X			
PROCESS								
Utililization:		X						
Preventive visits (i.e. well child)	X			X	X		X	X
Acute visits	X			X				
Dental				X		X		
Emergency *	X						X	
Mental health				X	X			
Pharmacy/RX	X			X				
Hospital Readmits *							X	

	FACCT/ NCQA	NACHRI	TitleV - MCHB	Johns Hopkins	Kuhlthau	Newa- check	Powe	Pantel
Access (how hard is it to get):								
Specialty care referral	X			X		X		
Specialty care appointments **	X			X				
Durable medical equipment/assistive tech **	X			X		X		
Physical, speech, occupational therapy	X			X		X		
Mental health counseling *	X			X	X			
Respite care *				X		X		
Up-to-date on Immunization		X			X	X		X
Received appropriate preventive screening (e.g.,lead,anemia)		X	X		X			
Length of time with PCP			X	X				
Family received written information on condition	X	X						
Family knowledge of child's condition	X			X		X		
Communication level:								
Doctors and other providers coordinate care plan with schools **	X	X		X	X			
Primary care provider & specialty provider coordinate care plan	X			X	X	X		
OUTCOME								
Screening Q for disability	X							
Functional status **		X			X	X		
Emotional functioning *						X		X
Social functioning *						X		X
Global health status		X				X		
School performance **						X		X

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School days missed						X		
Number of bed days						X		
Total annual $ spent on child						X	X	
Care appropriate for developmental level of child		X		X				
Satisfaction with doctor/provider:	X			X		X		
Support and understanding	X			X		X		
Communication and listening skills	X			X		X		
Knowledge of condition	X					X		
Satisfaction with office/other staff:	X			X		X		
Respect for child and family	X			X				

References:

FACCT/NCQA - Foundation for Accountability, Bethell C, Read D, Hochheimer J, Pediatric Living with Illness Module (LWIM), FACCT/NCQA, Draft October 1999.

NACHRI - National Association of Children's Hospitals and Related Institutions (NACHRI). Pediatric Excellence in Health Delivery Systems, "Measures of Excellence - Chronic Care". VA: NACHRI, June 1996.

MCHB - Maternal & Child Health Bureau (MCHB)/Title V, MCH Performance Measures

John Hopkins - Johns Hopkins National Policy Center for Children with Special Health Care Needs, Ireys H, Minkovitz C, Anderson G, Grason H, Connallon J. "Specific Measures of Quality Related to Health Services for Special Health Care Needs" from Quality Measurements for Children with Special Health Care Needs, September 1999.

Kuhlthau - Kuhlthau K, Klein-Walker D, Perrin J, Bauman L, Gortmaker S, Newacheck P, Stein R, "Assessing Managed Care for Children with Chronic Conditions". Health Affairs 17 (4): 42-52, July/August 1998.

Newacheck - Newacheck P, Stein R, Klein-Walker D, Gortmaker S, Kuhlthau K, Perrin J, "Monitoring and Evaluating Managed Care for Children with Chronic Illnesses and Disabilities", Pediatrics. 98 (5): 952-958, 1996.

Powe N, Weiner J, Starfield B, Stuart M, Baker A, Steinwachs D, "System-wide Provider Performance in a Medicaid Program: Profiling the Care of Patients with Chronic Illness." Medicaid Care 34: 798-810, 1996.

Pantel R, Lewis C, "Measuring the Impact of Medical Care on Children." Journal Chronic Disease 40:995-1085, 1987.

* program priority
** highest program priority

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FIGURE 2: RECOMMENDED HEALTH INDICATORS FOR CHILDREN WITH DISABILITIES DATABASE AVAILABILITY			
	Medicaid Management Information System (MMIS)	Children with Disabilities Needs Assesssment	CEDARR Intake
Easy physical access to facility			
Adequate number of pediatric specialists			
Pediatricians have clinical knowledge of disability			
Access to care weekends and nights			
Support services available -(i.e., transportation, homecare, respite		X	
Written linkages in place - state health, education, social service agencies			
Quality of care protocols in place			
Grievance and appeals process in place (esp for medical equipment)			
Parents on advisory group			
Utililization:			
Preventive visits (i.e. well child)	X	X	
Acute visits	X	X	
Dental	X	X	
Emergency	X	X	
Mental health	X		
Pharmacy/RX	X		
Hospital Readmits	X		
Access (how hard is it to get):			
Specialty care referral		X	
Specialty care appointments	X	X	
Durable medical equipment/assistive tech	X	X	X

	Medicaid Management Information System (MMIS)	Children with Disabilities Needs Assessment	CEDARR Intake
Physical, speech, occupational therapy	X	X	
Mental health counseling	X		
Respite care	X	X	
Up-to-date on Immunization			
Received appropriate preventive screening (e.g.,lead,anemia)			
Length of time with PCP	X		
Family received written information on condition			X
Family knowledge of child's condition		X	
Communication level:			
Doctors and other providers coordinate care plan with schools			
Primary care provider and specialty provider coordinate care plan			
Screening Q for disability			
Functional status		X	X
Global health status			
School performance			
School days missed		X	
Number of bed days		X	
Total annual $ spent on child	X		
Care appropriate for developmental level of child			
Satisfaction with doctor/provider:			

	Medicaid Management Information System (MMIS)	Children with Disabilities Needs Assessment	CEDARR Intake
Support and understanding		X	
Communication and listening skills		X	
Knowledge of condition		X	
Satisfaction with office/other staff:			
Respect for child and family		X	

Setting up the Medicaid Data Archive

Data sets that have been identified to trend health indicators are available and accessible for analysts on site at the RI Medicaid program. Data sets in the Medicaid Data Archive are either:

1. Statewide population-based data sets that include health outcome measures and insurance status (e.g., Vital Statistics Birth File and Behavioral Risk Factor Surveillance System); OR

2. Datasets collected on all Medicaid recipients or a representative sample (e.g., Medicaid Management Information System (MMIS), Survey of Adults or Children with Disabilities) (see Figure 3 for contents and description of data sets in RI Medicaid Data Archive).

FIGURE 3 - RI MEDICAID DATA ARCHIVE - Description and Content of Data Sets Selected

Data Set/Survey & Available Years	Description of Sample	Geographic Comparison			Demographic Measures								Health Outcome Measures						
		NATION	STATE	LOCAL	AGE	SEX	RACE	CENSUS	EDUC	INCOME	INSUR	SITE	ICD9	MEDCON	LOS	UTILIZ	MEDREC	DISAB	COST
		x	x	x	x	x	x	x			x	x	x		x	x			x
2. Vital Statistics - Birth File CY1993-2002	All RI births - annual births =12,500	x	x	x	x	x	x	x	x		x	x		x	x	x			
3. Minimum Data Set Nursing Home Residents 1998 (MDS)	All RI nursing home residents – annual residents = 10,000	x	x	x	x	x	x			x	x	x	x	x	x			x	
4. Behavioral Risk Factor 1996-2002 Surveillance System (BRFSS)	Representative sample of Rhode Islanders > age 18 (n =1,800-3,600)	x	x		x	x	x		x	x	x			x		x		x	
5. RI Health Interview Survey 1990 , 1996 & 2001	Representative sample of all Rhode Islanders (n=6,500)		x	x	x	x	x	x	x	x	x	x		x		x		x	
6. Infant Health Survey 1993 &1995	Birth cohort of Providence Inner City one year old infants (n=678)		x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x
7. Children with Disabilities Survey 1997	Random sample of RI children ages 1-21 on fee-for-service Medicaid (n=257)		x	x	x	x	X	x			x	x	x	x	x	x		x	x
8. Medicaid Management Information System (MMIS) CY1998 - 2002	Eligibility and Claims data on RI adults and elderly on Medicaid fee-for-service (n=42,000)	x	x	x	x	x	X	x			x	x	x	x	x	x		x	x
9. Adults with Disabilities Survey 2001	Random Sample of Adults with Disabilities on Medicaid Ages 18-64 on Fee-For-Service Medicaid																		

There is a four-step process in setting up the data sets in the archive:

Step 1: <u>Data Acquisition</u> – Obtain data (i.e., birth and death files from the Health
Department) and review data for accuracy and completeness.

Step 2: <u>Computer set-up</u> – Create Statistical Analysis System (SAS) extract files and
programs on personal computer.

Step 3: <u>Documentation of data set</u> – Produce code definitions and data dictionaries
and verify data accuracy.

Step 4: <u>Analysis of Health Indicators</u> – Run frequencies and crosstabs and design
baseline indicators.

The Medicaid Data Archive is not merely a "warehouse" where data are stored, but a
resource for analysts to track selected health indicators over time and respond to staff needs
to evaluate programs for Rhode Islanders on Medicaid. This is a dynamic and interactive
process where new data analyses are presented to the Evaluation Workgroup and researchers
and program staff discuss the findings and their program implications. The next section
presents several examples of how health indicators created for the Health Indicator System
have identified problems and have been used to improve the quality of services for Rhode
Islanders on Medicaid.

Findings – How Health Indicators Influenced and Changed the Rhode Island Medicaid Program

The Rhode Island Medicaid Program uses data results from the Health Indicator System to design new programs, improve existing programs, and show that programs are working effectively. The following sections are examples of how the RI Medicaid program has used the Health Indicator System to design measures for Healthy Children and Families, Children with Special Health Care Needs, and Working Aged Adults with Disabilities.

Healthy Children and Families in RIte Care – Rhode Island's Medicaid Managed Care Program

Existing public health data sets used to create health indicators include (1) The Vital Statistics Birth File, (2) The Vital Statistics Death File, and (3) The Behavioral Risk Factor Surveillance System (BRFSS). These three data sets provide the majority of health indicators used to evaluate the effectiveness of RIte Care and to show areas of unmet need. These data sets are available in every state and have outcome data on both Medicaid and privately insured populations so comparisons on different health measures can be made.

*Improved Maternal and Child Health*

The original objectives of RIte Care were to increase access to prenatal care and improve birth outcomes. The following health indicators are used to track these maternal and child health measures:

- Adequate Prenatal Care

- Maternal Smoking

- Interbirth Interval

- Infant Mortality

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In the first three years of the program these indicators showed that access to prenatal and pediatric care had improved and maternal and infant health were improving. [2] Pregnant women on Medicaid were receiving better prenatal care (see Figure 4), smoking less (see Figure 5), and waiting longer between births (see Figure 6). These significant improvements in maternal health were also reflected in the concurrent reduction in infant mortality (see Figure 7). Not only did these indicators show that the health status of low-income mothers and their children was improving, but it also showed that the health outcomes between women on public insurance and private insurance were becoming similar.

These maternal and child health indicators are updated on an annual basis and used not only by program staff but also by the advocacy community and the Rhode Island legislature to show that the public's investment in the program is worthwhile.

Figure 4: Health Indicator – Adequacy of Prenatal Care
Percent of Women who Received Adequate/Adequate+
Prenatal Care by Insurance Status 1993-2003
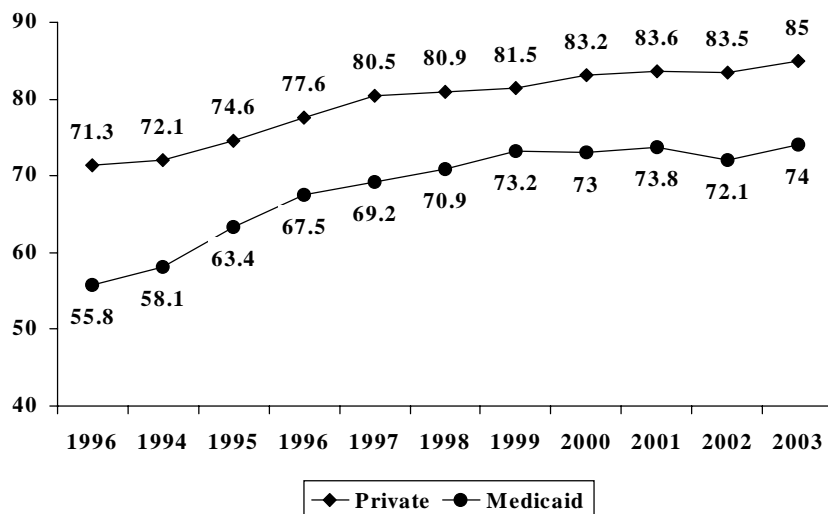
Data Source: Medicaid Research & Evaluation Project
Vital Statistics Birth File 1993-2003 – (n=136,996)

Figure 5: Health Indicator – Maternal Smoking
Percent of Pregnant Women who Smoke Cigarettes*
by Insurance Status 1993-2003
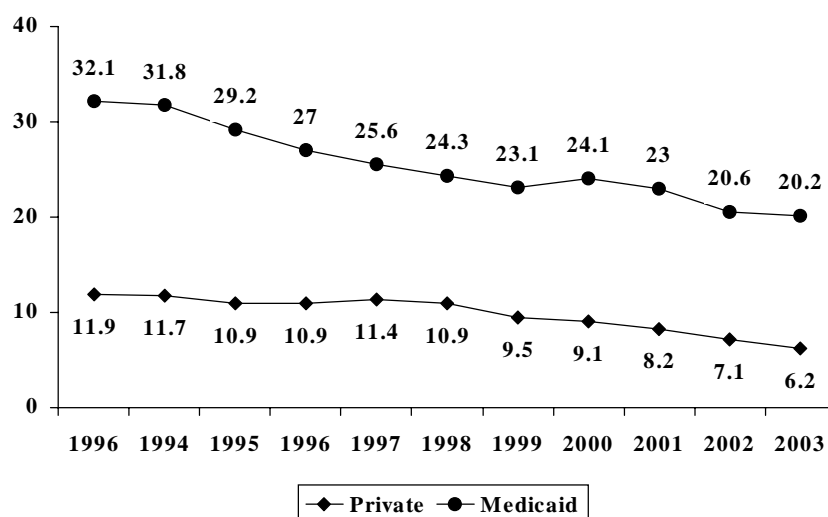
Data Source: Medicaid Research & Evaluation Project
Vital Statistics Birth File 1993-2003 – (n=136,996) * Self Report

Figure 6: Health Indicator – Short Interbirth Interval
Percent of Women with Short Interbirth Interval
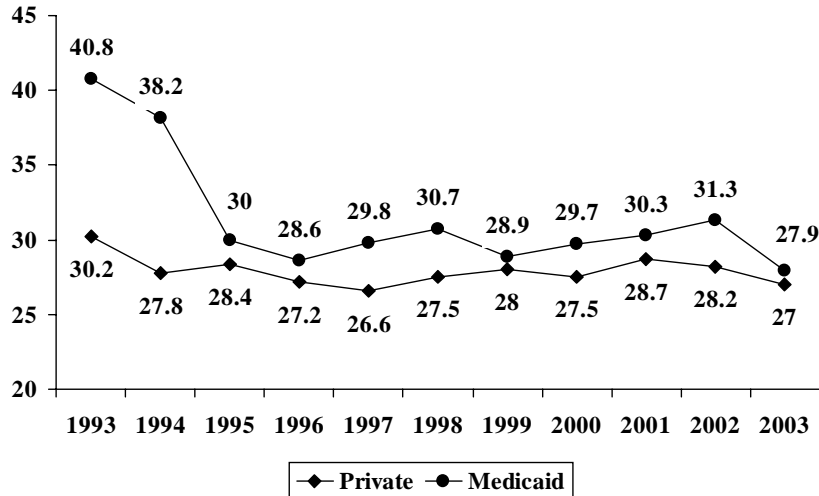### (<18 months) by Insurance Status 1993-2003

Figure 7: Health Indicator – Infant Mortality
Rhode Island Infant Mortality by Insurance Status
1990-1999

High Teenage Birth Rates

Since the RIte Care program pays for prenatal care and delivery expenses for more than 70 percent of the teen births in the state, the program staff are very interested in tracking teen births. A needs assessment of teen births showed that Rhode Island had the highest teen birth rate of all the New England states.[3]

Figure 8: Health Indicator – Teen Birth Rate
Teenage Birth Rate Ages 15-19
Four Year Average 1996-1999
New England States

State	Rate per 1,000 Teens
RI	41.1
CT	35.7
ME	30.9
MA	30.9
NH	27.1
VT	26.8

Rate per 1,000 Teens
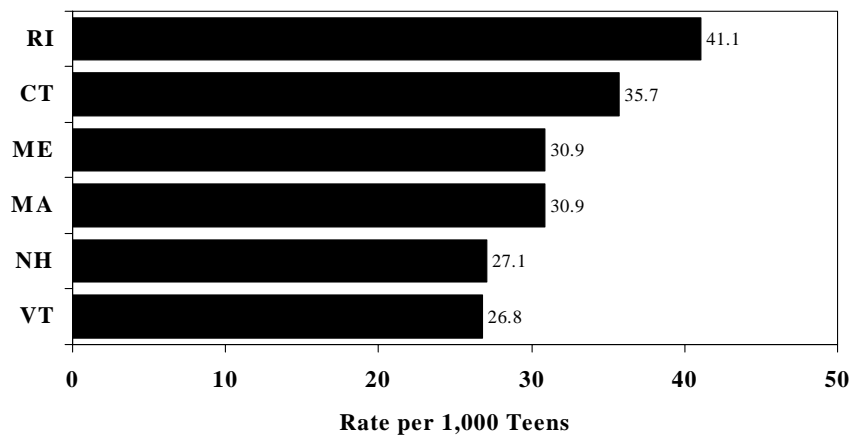
Data Source: National Center for Health Statistics
National Vital Statistics Report (NVSR) 1996-1999

Further analysis showed that access to contraception was a problem for Rhode Island teens. A statewide coalition was formed to work with communities to identify solutions. RIte Care now tracks second-time births to teen mothers. Figure 9 shows this health indicator and how during the 1990s one in four Medicaid teen births was to a teen mother who already had a child.

Figure 9: Health Indicator – Teen Repeat Births
Percent of Teen Mothers with Previous Live Births
by Insurance Status 1993-2003

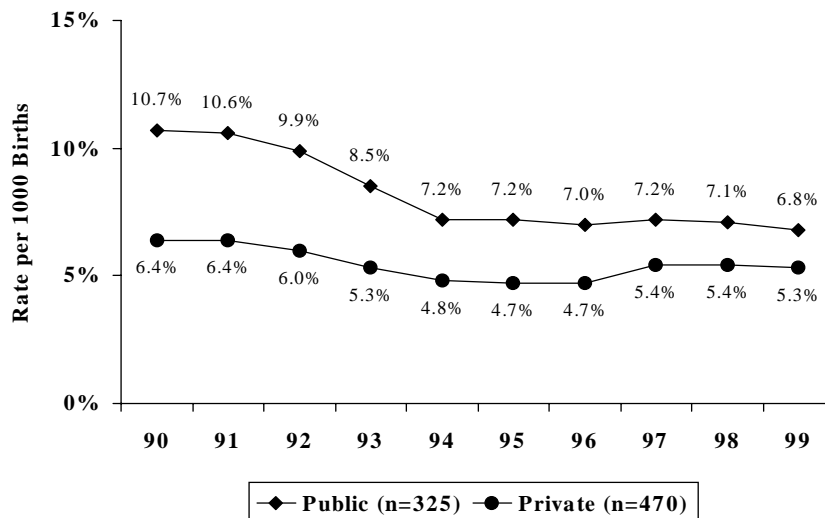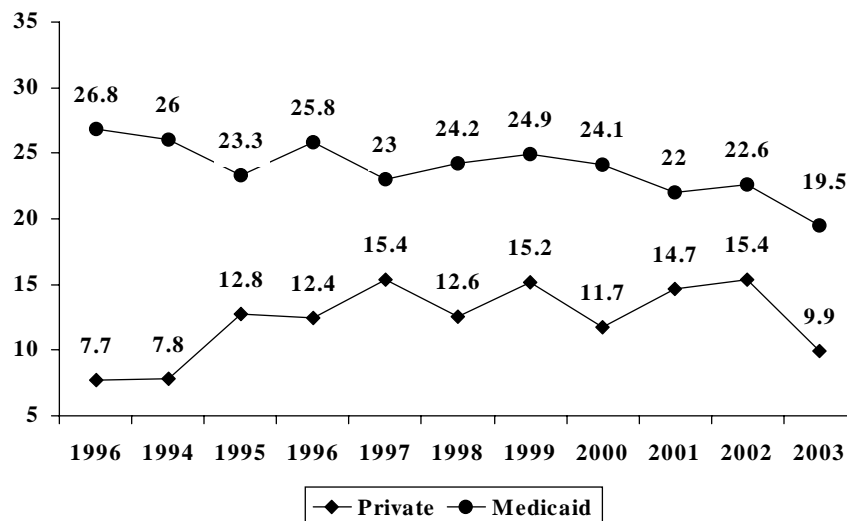
Data Source: Medicaid Research & Evaluation Project
Vital Statistics Birth File 1993-2003 – (n=13,985)

Maternal and child health indicators tracked during the 1990s have shown RIte Care successes as well as areas that need improvement.

Covering the Uninsured

RIte Care used the Health Indicator System to help expand its program to cover higher-
income and working uninsured Rhode Islanders. Health indicators were developed into a
chartbook from the Behavioral Risk Factor Surveillance System (BRFSS) to show that
uninsured Rhode Islanders had less access to health care compared to insured Rhode
Islanders.[4] As Figure 10 shows, only 46 percent of uninsured Rhode Islanders had a routine
medical check-up in the past year compared to 85 percent of Rhode Islanders on Medicaid.

Figure 10: Health Indicator –
Access to Healthcare for Uninsured
Had a Routine Check-up in the Past Year
Rhode Islanders Ages 18-64 by Insurance Status
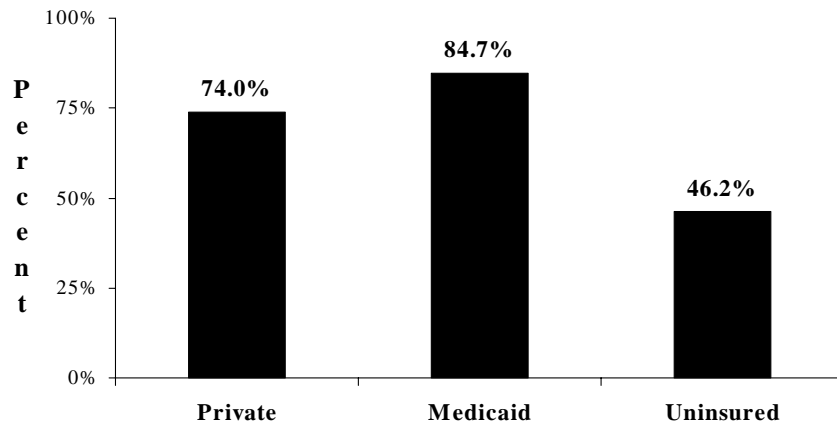
Data Source: Medicaid Data Archive
Behavioral Risk Factor Surveillance System 1996-98 average
RI Department of Health

In 1999 RIte Care was expanded to cover more low-income families. The Health Indicator System was used to see if RIte Care was reaching its target population using the Census Bureau's Current Population Survey Data. Figure 11 shows that the uninsurance rate for children in low-income families has declined almost 60 percent from the mid to late nineties. This health indicator shows that the RIte Care program has succeeded in providing health insurance for the target population of low-income children.

Figure 11: Health Indicator – Uninsured Low-Income Children

Percent Uninsured Rhode Island Children
< 18 Years Old by Poverty Level 1994-2001
3 year average
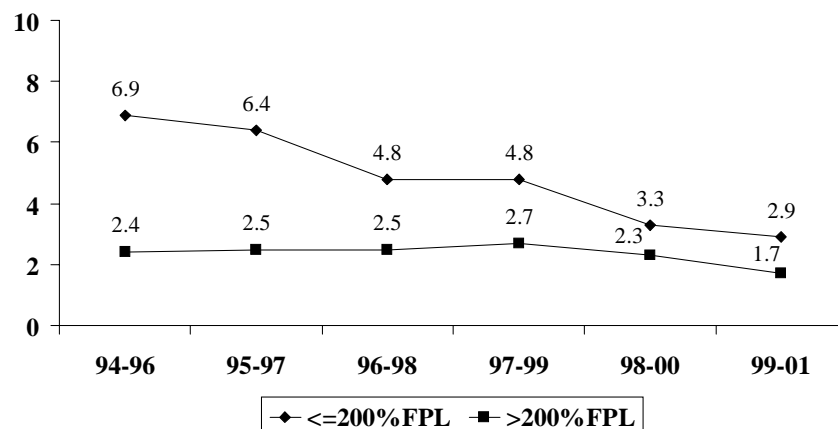
Data Source: US Bureau of Census , Current Population Surveys 1994-2001 – 3 year averages

Children with Special Health Care Needs

It is difficult to obtain health indicators from public health data sets for populations with disabilities because there are such small numbers of people affected by disability and disability measures are not collected consistently across programs. Therefore the Health Indicator Project developed measures for children with disabilities both from a statewide survey of children on SSI and from the program data on the Medicaid Management Information System (MMIS).[5,6] Health indicators developed from these analyses helped design a new Medicaid service for families with children with disabilities called CEDARR (Comprehensive Evaluation Diagnostic Assessment Referral and Re-evaluation). CEDARR is a one-stop service site that provides support and information for children with disabilities and their families.

The caregiver survey found that the most significant needs for children on SSI were for support and ancillary services, not medical or specialty care. Table 1 below shows the top 10 unmet needs identified for those children.

Table 1: Health Indicators – Unmet Need for Support Services for Children* with Disabilities on Medicaid (n=4,314)**

Medical/Support Service	Estimated Number of Children with Unmet Need***	Percent
Over-the-Counter Drugs	1,680	38.9%
Support Groups for Parents	1,560	36.2%
Information on Primary Condition	1,510	35.0%
Respite Care	1,390	32.2%
Transportation	1,260	29.2%
Dental Care	1,160	26.9%
Day Care, After-School Care	1,050	24.3%
Mental Health Counseling for Child	1,040	24.1%
Parent Education Classes	930	21.6%
Case Management	920	21.3%

* Needs of children as reported by caregiver

** Total population = 4,314 RI children ages 1-21 with disabilities on fee-for-service medical assistance

*** Estimated unmet need = (number of children who need service)X
(% service not available + % service available, but does not meet need)

These health indicators are being used as baseline measures to evaluate the new CEDARR Family Centers. This evaluation will show if providing assessment, clinical evaluation, case management, and information and support for families reduces the unmet need for selected services.

The survey of children with disabilities also identified children with mental health disorders as having greater needs than children with physical or developmental disabilities. Figure 12 shows that children with mental disabilities had hospital stays three times longer than children with physical disabilities.

Figure 12: Health Indicator – Children's Mental Health
Average Number of Days Spent in Hospital for those
Hospitalized in Past Year by Disability Category
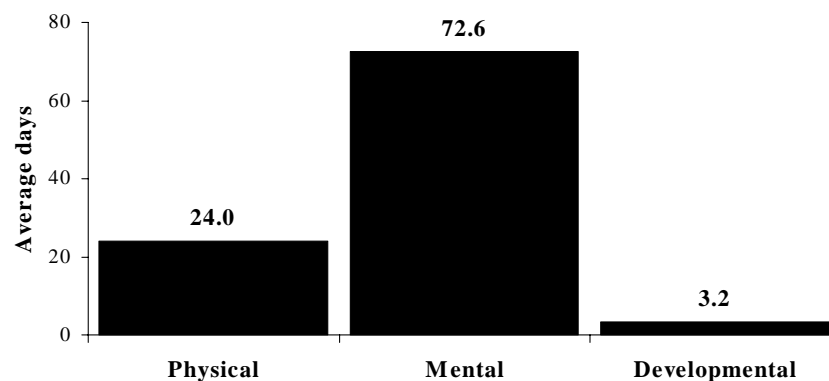
Data Source: RI Medicaid Research and Evaluation Project
Caregiver Survey, 1997 (n=257)

Access to mental health services was also shown as a problem in the MMIS analyses. Figure 13 shows that the overwhelming majority of hospitalizations for children with special needs are for mental disorders. This indicator indicates a lack of access for community-based mental health services.

Figure 13: Health Indicator – Mental Health
Leading Causes of Hospitalization by Principal Diagnosis
by CSHCN Group
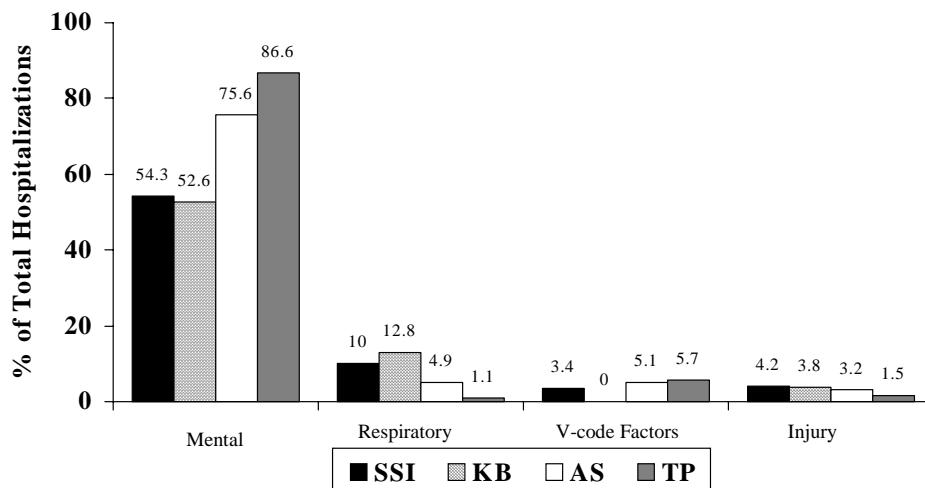
Data Source: Medicaid Data Archive
MMIS CY 2000, Children <21 on FFS Medicaid

The MMIS was also used to create health indicators for children with special health care needs. Indicators were designed for the following four population groups:

1. Children on SSI (SSI)

2. Katie Beckett (KB)

3. Children in Adoption Subsidy (AS)

4. Children in Substitute Care (SC)

(Note: Groups 3 and 4 were formerly called foster children.)

Children with special needs were recently enrolled in RIte Care so hospital and emergency department (ED) claims were linked with member files to create several baseline measures that will be used to evaluate the effectiveness of managed care for this population. Table 2 shows the hospital and ED health indicators selected to track the four children with special needs groups. Measures such as percent of enrolled children hospitalized and percent of hospital days in a psychiatric hospital are being tracked.

	SSI	KB	AS	SC
Table 2: A Summary Data Table of Baseline Health Indicators for Children with Special Health Care Needs CY 2000 (n = 12,062)				
Total Enrollees	5,424	1,012	1,945	3,681
Total Enrollees – Adjusted for days Enrolled	4,908	917	1,832	2,852
Total Hospital Stays	1,218	78	221	570
Total Hospital Days	13,952	1,264	3,876	8,313
Hospitalization Rate per 1000 Enrolled Children *	224.4	77.1	114.5	261.5
Total Hospital Days Rate per 1000 Enrolled Children *	2,841.6	1,378.4	2,115.7	2,914.8
Average Hospital Length of Stay	11.5	16.2	17.5	14.6
% of Hospitalizations for Mental Disorders	54.3	52.6	77.4	80.2
% of Children Hospitalized	9.8	3.0	3.5	6.3
Total ED Visits	3,249	154	447	1,494
ED Rate per 1000 Enrolled Children *	662.0	167.9	244.0	523.0
% of Children with ED Visit	29.4	10.4	17.6	32.2

Data Source: Medicaid Data Archive – MMIS CY 2000 Linked Enrollee/Claim (n=12,062) * Adjusted for days enrolled

Working-Aged Adults with Disabilities

The same methods were used to design health indicators for adults with disabilities on Medicaid. A statewide survey was conducted and hospital and emergency department MMIS claims were analyzed. [7,8] Similar to the Children with Disabilities Survey, the survey of adults showed the greatest need of working-age adults with disabilities was for supportive and ancillary services, not medical care. Table 3 shows the top 10 needs of adults with physical disabilities. These indicators are being used to create new services for this population.

Table 3: Health Indicator – Adults with Physical Disabilities		
Top 10 Unmet Needs of Working-Age Adults with Physical Disabilities (n = 15,106)		
Type of Service	Percent of Respondents with Unmet Need	Estimated Number of Adults with Unmet Need
Dental Care	20.2	3,049
Eyeglasses	15.7	2,370
Peer Support	13.8	2,089
Information on Specific Health Problem	7.6	1,148
Physical/Occupational Therapy	7.6	1,145
Mental Health Counseling	7.6	1,145
Nutrition Counseling	7.4	1,115
Home Health Aid/Homemaker/Personal Care	6.5	980
Specialty Medical Care	4.6	687
Transportation (to Doctor.'s or Pharmacy)	3.6	545

* Total Population = 15,106 non-elderly adults with physical disabilities on fee-for-service Medicaid
** Estimated Number of Adults with Unmet Need = Number who need service x percent who were not able to obtain service

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In addition, barriers to community-based mental health has also been identified as a problem for adults with disabilities. Similar to children on fee-for-service Medicaid, hospitalizations with mental health diagnoses are the leading cause of hospitalizations for adults with disabilities. As Figure 14 shows, not only are most hospitalizations for mental disorders, but mental health hospitalizations have increased each year.

Figure 14: Health Indicator – Mental Health Hospitalizations for Adults
Leading Causes of Hospitalizations by Principal Diagnosis for
Fee-For-Service Medicaid Recipients Ages 21-64
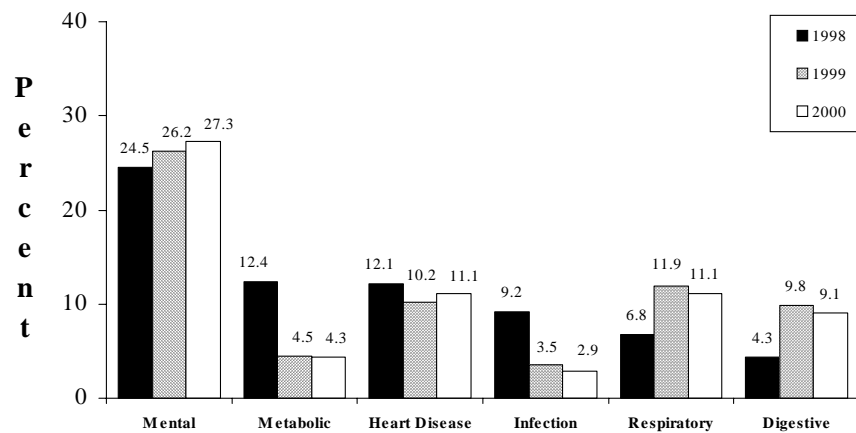
Data Source: Health Indicator Project
Medicaid Data Archive, ICD-9 Groupings
MMIS Extract (1998 n = 6,423 hospitalizations; 1999 n = 6,676 hospitalizations; 2000 n = 7,397)

Conclusions

The Health Indicator System designed and implemented by the Rhode Island Medicaid Program is an effective program evaluation model that other states could easily adopt to identify unmet needs and evaluate their program initiatives. Existing public health data sets, statewide surveys and program data can be used to create a Medicaid Data Archive. This archive can then be used by university health services researchers and public health analysts to create health indicators and evaluation reports for use by Medicaid program staff. The key to success in the RI Evaluation Studies Workgroup was researchers who listened to the needs of program staff and program staff who understood the benefit of research in measuring program effectiveness.

References – Health Indicator Evaluation Reports

1. <u>Design of a Health Indicator System: A "How-to" Manual for State Medicaid Programs</u>. Developed by Evaluation Studies Workgroup, Division of Health Care Quality, Financing and Purchasing, Rhode Island Department of Human Services, March 2000.

2. Griffin J, <u>The Impact of RIte Care on Adequacy of Prenatal Care and the Health of Newborns</u>, 1993-2001, RI Medicaid Research and Evaluation Project, April 2003.

3. Griffin J, <u>Teen Births in Rhode Island: A Needs Assessment</u>, RI Medicaid Research and Evaluation Project, November 2001.

4. Griffin J, <u>Does Health Insurance Make a Difference?: Differences in Health Status and Access to Care for Rhode Islanders Ages 18-64 by Insurance Status</u>, RI Medicaid Research and Evaluation Project, October 2000.

5. Griffin J, <u>Health Care Needs of Children with Disabilities on Medicaid: Results of Caregiver Survey</u>, MCH Evaluation, Inc., 1998

6. Griffin J, <u>Baseline Health Indicators for Children with Special Health Care Needs – CY 2000</u>, RI Medicaid Research and Evaluation Project, 2002.

7. Payne C, <u>Needs Assessment Survey of RI Working-Aged Adults with Physical Disabilities and Chronic Health Conditions on Fee-for-Service Medicaid</u>, RI Medicaid Research and Evaluation Project, 2002

8. Payne C, <u>Hospital and Emergency Department Utilization for Working Age Rhode Islanders on fee-For-Service Medicaid CY 1998-2000</u>, RI Medicaid Research and Evaluation Project, 2002.

	APPENDIX 1										
FIGURE 1: RECOMMENDED HEALTH INDICATORS FOR ADOLESCENTS											
	Foundation & Professional Groups - Policy Recommendations				Performance Measures/Quality Assurance for health plans					DHHS -needs assessments	
INDICATOR	AMA Y2000	RWJ	MoHIS	Kids Count	NLHI	CON QUEST	HEDIS	HCQUIS	FACCT	HRSA	OASPE
Primary Care Utilization/Prevention											
Physical exams, check-ups**		x					x	x		x	
Dental visits**	x	x					x	x			x
Family planning visits	x	x					x				x
Mental health visits/readmits**			x				x	x			
Immunization (HepB)**		x					x				x
Exercise/diet/weight	x										x
Risk Taking											
Teen pregnancy (2nd time mothers)**	x		x	x						x	
Sexually Transmitted Diseases	x		x					x		x	
AIDS/HIV					x			x		x	
Sexual Activity	x									x	
Tobacco use**	x	x					x	x	x	x	x
Alcohol use**	x	x			x		x	x	x	x	x
Drug use**	x	x	x		x	x	x	x	x	x	x
Unintentional Injury	x								x		
Motor Vehicle Accidents								x			x
Violence/Homicide	x		x	x						x	x
School drop-out				x						x	x
Chronic Conditions											
Depression/Suicide**	x		x	x	x	x			x	x	x
Diabetes					x	x	x	x	x		
Asthma			x		x	x	x	x			

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Reports reviewed:

Policy Recommendations:
AMA - Healthy Youth 2000, 1991 - American Medical Association adopted CDCs Year 2000 health objectives aimed at adolescents
RWJ - Access to Health Care: Key Indicators for Policy 1993 **&** Substance Abuse The Nation's #1 Health Problem - utilization and outcome measures
MoHIS - The Missouri Health Indicator Set, 1996 - consensus group developed a set of health quality measures for the Robert Wood Johnson Foundation
Kids Count - Kids Count Data Book, 1998 - developed benchmarks to create state profiles and track the health status of children

Performance Measures:
NLHI - National Library of Health Care Indicators, 1997 - Joint Commission on Accreditation of Health Care Organizations
     (JCAHCO) reviewed 225 performance measures and selected key indicators for health plans
CONQUEST - A Computerized Needs Oriented Quality Measurement Evaluation System , 1996 - combines clinical performance measures form 53 measure sets
     (e.g., Hedis, RAND, etc) to create condition database of 52 clinical conditions/diagnoses -developed by Harvard School of Public Health for AHCPR

HCQUIS - A Health Care Quality Improvement System for Medicaid Managed Care , 1993 - performance measures developed for states by HCFA
HEDIS - Health Plan Employer Data and Information Set (HEDIS) 3.0, 1997 - performance measures developed by National Committee for Quality Assurance (NCQA) with HCFA & APWA
FACCT - Foundation for Accountability (FACCT) Performance Measures, 1996 - performance measures developed by FACCT(Jackson Hole Group)

Needs Assessment:
HRSA - America's Adolescents: Are they Healthy?, 1998 - Needs assessment conducted by Institute for Health Policy Studies at University of CA, San Francisco.
     An overview of adolescent health with available, reliable data
OASPE - Trends in the Well-Being of America's Children and Youth, 1998 - Needs assessment conducted by Brett Brown at Child Trends for Office of the Assistant Secretary for Planning and Evaluation.
     Reliable estimates on 80 indicators of child well-being. Indicators selected from 20 national presentations.
     Selection criteria include, availability, national and state comparison, ongoing collection, timeliness

** = Medicaid Program selected as priority

FIGURE 2:   RECOMMENDED HEALTH INDICATORS FOR RI ADOLESCENTS BY AVAILABLE STATE DATA SOURCE

INDICATOR	Vital Statistics - Birth	Hospital Discharge	Encounter/ MMIS		
Primary Care Utilization/Prevention					
Physical exams, check-ups**			x		
Dental visits**		x	x		
Family planning visits			x		
Mental health visits/readmits**		x	x		
Immunization**(HepB)			x		
Exercise/diet/weight					
Risk Taking					
Teen pregnancy (2nd time mothers)**	x				
Sexually Transmitted Diseases		x			
AIDS/HIV		x	x		
Sexual Activity					
Tobacco use**					
Alcohol use**					
Drug use**					
Unintentional Injury		x			
Motor Vehicle Accidents		x	x		
Violence/Homicide		x	x		
School drop-out			x		
Chronic Conditions					
Depression/Suicide**		x	x		
Diabetes		x	x		
Asthma		x	x		

** = Medicaid program selected as priority

INDICATOR	RI Year 2000	RWJ	IOM	HCQUIS	HEDIS	FACCT	CON-QUEST	MoHIS
Prevention:								
CVD Screening (cholesterol)	x			x	x			x
Breast Cancer Screening (mammography)	x		x				x	
Cervical Cancer Screening (pap smears)	x	x	x		x	x	x	x
Colorectal Cancer Screening		x					x	x
Diabetic Retinal Exams					x	x		x
Influenza/pneumonia vaccination *		x		x	x	x		x
Tobacco use	x	x		x		x		
Alcohol use	x	x		x		x		
Drug use	x	x		x			x	x
Screening for Chronic Disease								
Depression/Suicide	x			x	x	x	x	x
Mental Disability	x			x	x		x	x
Chronic disease follow-up			x			x		
Hypertension	x					x	x	
Tuberculosis	x			x				
Breast cancer - stage of dx	x					x	x	x
Cervical cancer - stage of dx	x						x	x
Colorectal cancer - stage of dx							x	x

HIV		x						x	

INDICATOR	RI Year 2000	RWJ	IOM	HCQUIS	HEDIS	FACCT	CON-QUEST	MOHIS
Hospitalizations for ACS Conditions:			x		x			
Pneumonia		x	x		x		x	
Cellulitis		x	x		x			
UTI		x	x		x			
Dehydration		x	x		x			
Gastroenteritis/Dehydration		x	x		x			
Asthma		x	x	x	x	x	x	x
Chronic Obstructive Pulmonary Dis.		x	x	x	x		x	
Congestive Heart Failure		x	x	x	x		x	x
Angina		x	x	x	x			
Diabetes		x	x		x	x	x	
Other Hospitalizations:								
Myocardial infraction				x			x	x
Hysterectomies				x				x
Hip fracture				x				x

References:
RI Year 2000 - Year 2000 health objectives developed by the Department of Health with community agency and consumer input
RWJ - utilization and outcome measures from publication- Access to Health Care: Key Indicators for Policy 1993 or Substance Abuse: Key Indicators for Policy, 1993
IOM - utilization and outcome measures from book - Access to Health Care in America, National Academy of Sciences, 1993
HCQUIS - performance measures developed by DHHS, HCFA, 1993
HEDIS - performance measures developed by National Committee for Quality Assurance in conjunction with HCFA & APWA, 1997
FACCT - performance measures developed by Foundation for Accountability (Jackson Hole Group)
CONQUEST - A Computerized Needs Oriented Quality Measurement Education System developed by Harvard School of Public Health for AHCPR, 1996
MoHIS - developed by Missouri Health Systems Partnership for the Robert Wood Johnson Foundation, 1996

APPENDIX 2
FIGURE 2: RECOMMENDED HEALTH INDICATORS FOR HEALTHY ADULTS BY AVAILABLE DATABASES

INDICATOR	Death File	Hospital Discharge	BRFSS	RIHIS	Special Survey	MMIS
Prevention:						
CVD Screening (cholesterol)			x			x
Breast Cancer Screening (mammography)			x			x
Cervical Cancer Screening (pap smears)			x			x
Colorectal Cancer Screening						x
Diabetic Retinal Exams			x			x
Influenza/pneumonia vaccination			x			x
Dental				x		x
Tobacco use			x	x		
Alcohol use			x	x		
Drug use			x	x		
Chronic Disease:						
Depression/Suicide	x					
Mental Disability						
Functional Status			x	x		
Chronic disease follow-up						
Hypertension			x	x		
Tuberculosis						
Breast cancer - stage of dx						
Cervical cancer - stage of dx						
Colorectal cancer - stage of dx						
HIV	x		x			

INDICATOR	Death File	Hospital Discharge	BRFSS	RIHIS	Special Survey	MMIS
Hospitalizations for ACS Conditions:						
Pneumonia		x				
Cellulitis		x				
UTI		x				
Dehydration		x				
Gastroenteritis/Dehydration		x				
Asthma		x				
Chronic Obstructive Pulmonary		x				
Congestive Heart Failure		x				
Angina		x				
Diabetes		x				
Other Hospitalizations:						
Myocardial infraction		x				
Hysterectomies		x				
Hip fracture		x				

APPENDIX 3
FIGURE 1: RECOMMENDED HEALTH INDICATORS FOR ADULTS WITH DISABILITIES

INDICATOR	Draft-CDC 2010	RWJF IHA	ASPE Soafer	PACE	FACCT ONE	CAHPS	RWJ PMG	NHLI	Quismic	CHCS Measures
STRUCTURE:										
Assisted Living Facilities	X	X								
Adult Foster Care	X	X								
Specialists			X			X				
DME			X			X				
"System" Capacity (community based services, case managers & ombudsman)		X	X							
Linkages (acute & chronic)			X							
PROCESS:										
Nursing Home (Stays & Days)	X	X		X						
Hospital Stays (Stays & Days)		X		X		X		X		
Emergency Department Visits		X	X					X		
Skilled Home Health (nursing)	X	X	X			X				
Unskilled Home Health (home health aid)	X			X		X				
Rehab Services (PT, OT, ST)		X				X				
Adult Day Care	X									
Respite Services			X							
Readmits (psych & mental) **		X	X	X			X	X		X
ACS Hospitalizations **			X				X			X
Mental health outpatient			X	X						
Chronic Follow-up Care (diabetes, depression, asthma, aids)		X								X
Functional Assessment	X		X							

References: **** Program priorities**

2010: Healthy People 2010 Objectives for Long Term Care Services, Draft for public comment. US DHHS, 1998.

IHA/RWJF: Perspectives on the Monitoring of Chronic Conditions and Community Responsiveness. Prepared for
the Robert Wood Johnson Foundation by the Institute for Health & Aging, UCSF, 1997.

Soafer: Shoshanna Soafer, Meeting the Challenge of Serving People with Disabilities. Prepared for Assistant Secretary for Policy and Evaluation, US DHHS, 1998.

PACE: Performance Measures, Program for All-Inclusive Care of the Elderly, 1997.

FACCT/ONE: Performance Measures for chronic disease. Foundation for Accountability, 2000.

CAHPS: Consumer Assessment of Health Plans 2.0, Supplemental Questions for People with Chronic Conditions, Agency for Health Care Policy and Research, 1998.

RWJF PMG: Prepared by the Performance Measures Work Group for the Robert Wood Johnson Foundation, Draft Report, 1999.

NLHI: National Library of Healthcare Indicators, Joint Commission on the Accreditation of Health Care Organizations, 1997.

QUISMC: Quality Improvement System for Managed Care, Health Care Financing Administration, Draft, 1998

CHCS: Center for Health Care Strategies, Performance Measures Workgroup Report, 2000

APPENDIX 3					
FIGURE 2: RECOMMENDED HEALTH INDICATORS FOR ADULTS WITH DISABILITIES - DATABASE AVAILABILITY					
INDICATOR	**MMIS - Claims**	**Hospital Discharge**	**Needs assessment Survey**		
STRUCTURE:					
Assisted Living Facilities	X				
Adult Foster Care					
Specialists	X				
DME					
"System" Capacity (community based services, case managers & ombudsman)					
Linkages (acute & chronic)			X		
PROCESS:					

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Nursing Home (Stays & Days)	X				
Hospital (Stays & Days)	X				
Emergency Department Visits	X		X		
Skilled Home Health					
Unskilled Home Health					
Rehab Services (PT, OT, ST)	X				
Adult Day Care					
Respite Services					
Readmits (7,14,30 days) **	X				
ACS Hospitalizations **	X	X			
Psych hospital/Mental health					

INDICATOR	MMIS - Claims	Hospital Discharge	Needs Assessment Survey		
Chronic Follow-up Care			X		
Primary Care Doctor Visits	X		X		
Functional Assessment			X		
Depression Screen			X		
Substance Abuse Screen					
OUTCOME:					
Functional Status **			X		
Depression **			X		
Unmet Need for Care	X		X		
Average Costs	X				
Pain/Symptoms **			X		
Satisfaction (Access in emergency ** MD Knowledge, etc.)			X		
Patient Knowledge of Condition					
Patient Involvement in Care					
Work					
Social Activity					
Family Satisfaction					

** program priorities